## Notice

FlipTrack® Training Tapes makes no warranties, express or implied, regarding this computer training package, its merchantability, or its fitness for any particular purpose. FlipTrack® Training Tapes shall not be liable for any error contained herein or for incidental or consequential damages in connection with the furnishing, performance or use of this material.


## Copyright

Copyright © 1982 FlipTrack® Training Tapes, a Division of Mosaic Media, Inc. All rights reserved. Printed in the United States of America.

This document and its accompanying audio cassettes are copyrighted and may not, in whole or in part, be copied, photocopied, reproduced, translated or reduced to any electronic medium or machine readable form without prior consent, in writing, from FlipTrack® Training Tapes.

Willful violations of the Copyright Law of the United States can result in civil damages of up to $50,000, in addition to actual damages, plus criminal penalties of up to one year imprisonment and/or a $10,000 fine.

## Patent and Trademarks

The FlipTrack® trademark and recording format (U.S. Patent No. 4,078,315) are used by permission of Mosaic Media, Inc., Glen Ellyn, Illinois. Unauthorized duplication or adaptation is strictly prohibited under Federal law and will be prosecuted to the full extent of the law.

Apple, Apple II, Apple II Plus, Disk II, and Applesoft are trademarks of Apple Computer, Inc.


## Replacement Components

If replacement components for this mini-course are not available from your local dealer, write FlipTrack® Training Tapes, P.O. Box 711, Glen Ellyn, IL 60137, for pricing information.


Edition 3.3.1

# CONTENTS


**INTRODUCTION** ..... 4

**Lesson 1: GETTING ACQUAINTED** ..... 6

*Fast Track:* Turning on the system. "Booting" a diskette. Running a program. Using a menu. Correcting entries. Using the special keys: Reset, Return, Repeat, Arrows, Escape, Control, Shift. Controlling the cursor. Clearing the screen. Doing calculations. Displaying text.

*Full Track Options:* Setting up the system. Adjusting color. Using game controllers. Clearing portions of the screen. Modifying the system for word processing. Using a numeric keypad. Determining order of operations for arithmetic calculations. Quiz.

**Lesson 2: USING DISK STORAGE** ..... 12

*Fast Track:* Displaying and interpreting the catalog. Clearing memory. "Booting" from the keyboard. Initializing a new or used diskette. Loading from a diskette. Saving to a diskette. Renaming files. Locking and unlocking files. Deleting from a diskette. "Write protecting" a diskette. Protecting files with secret codes. Using both sides of a diskette.

*Full Track Options:* Operating a printer. Running an Integer BASIC program. Switching between Applesoft and Integer BASIC. Customizing a "greeting" program with name, date, purpose and volume number. Using a second disk drive to copy files, rename files and delete files. Quiz.

**Lesson 3: MAKING COPIES AND PROGRAM CHANGES** 18

*Fast Track:* Copying a complete diskette. Copying selected files and programs. Determining space available on a diskette. Unlocking, locking and deleting files automatically. Listing a program. Changing lines in a program. Modifying screen displays for flash, inverse and speed.

*Full Track Options:* Copying complete diskettes or selected files with a second disk drive. Running and converting 13-sector diskettes on a 16-sector system. Quiz.

**QUICK REFERENCE INDEX** ..... 24

# INTRODUCTION

You are about to sit down with a personal tutor, who will "talk you through" the essential operations of an Apple II Plus computer. In three "hands on" training sessions of one or two hours each, you will learn how to:

- Use each special key and essential command
- Load and run programs
- Save programs and data
- Copy programs or diskettes
- Protect programs
- Modify programs
- Use your computer as a super calculator
- And much more!

### No Programming Required

You don't need to be a programmer to operate a computer; any more than you need to know how to design a car to drive one. Our purpose is to put you in the driver's seat of your Apple computer so that you can confidently use existing programs . . . enter your own data . . . organize your files . . . and protect them. If you later decide to take up programming, you'll have the necessary background for doing so.

### Teach Yourself. Train Others.

This mini-course is designed for the first-time computer user and assumes no technical knowledge whatsoever. An experienced computer user will find it useful for review, for an introduction to the Apple II Plus, or for training others, such as staff, colleagues, clients, customers, students or family members. Use it again and again.

### Hardware Requirements

System requirements include an Apple II Plus computer with a Disk II drive and the System Master 3.3 diskette. Your TV or monitor can be either color or black and white. A second disk drive is optional, as are a printer and game controllers.

The only other requirement is an audio cassette player, which will be used strictly for spoken voice instruction. No computer hookup is needed. Our unique FlipTrack® format works best if your player has a digital counter, but even that is optional.



### Why Audio Instruction?

Simple. It's human. It's interactive. It's multi-sensory. It's self-paced. It's patient. And it works!

Unlike a *manual*, an audio cassette delivers carefully sequenced instruction in conversational language. Unlike a *printed tutorial*, it leaves your eyes free to concentrate on the screen and keyboard. Unlike a *lecture*, it lets you learn by actual practice on your own machine. Unlike a *live tutor*, it lets you learn without embarrassment and at your own convenience. Unlike a *teaching diskette*, it leaves your computer free to be the object of instruction. And unlike *other media*, it is inexpensive.

### The FlipTrack® Difference

Best of all, our patented FlipTrack® cassette format can adjust to a variety of special interests and configurations. For example, optional instruction is available at a flip of the tape for users with:

- Color video
- A printer
- A second disk drive
- Game paddles

You save time and avoid confusion by learning just the procedures that relate to your system, or listening to just the topics that interest you. The choice of whether to follow a "full" or "fast" track through the program is always yours.

### The Operator's Guide

Keep this handy booklet near your computer, and use it as you would a "cookbook". The key points from each lesson are briefly outlined for your review and *indexed* for quick access to important terms, commands and procedures. In effect, we've done your notetaking for you.

### The Quizzes

An optional quiz concludes each lesson to provide reinforcement and a practical self-check. If you'd like to try the quiz before taking a lesson, you can do so by turning the tape over and beginning on the back side.

### How to Get Started

Insert Tape 1 into your cassette player, and push PLAY. Have fun!

1

## *Key Ideas from Lesson 1:*
# GETTING ACQUAINTED

***System Requirements:*** Apple II Plus Computer
TV or Monitor *(either color or B&W)*
Disk II Drive *(either 1 unit or 2)*
System Master 3.3 Diskette

***Options:*** Printer
Game Controllers

FlipTrack Option

### *Setting Up the System*

Turn power off before opening computer.
Put Disk II Controller Card into Slot 6 with Drive 1 cable in upper pins and Drive 2 cable in lower pins. Secure with clamp.
Put Printer Interface Card into Slot 1.
Attach TV to antenna leads through RF modulator.
Attach Monitor directly to computer's video output jack.
Attach Game Controllers to game I/O socket inside computer.

### *Caring for Diskettes*

Avoid fingerprints, dust, heat or bending.

Label with felt tip marker, not hard ball point pen.

Store properly in album or box.

### *Booting from the Power Switch*

*(Getting started with a diskette by turning on the computer)*

1. Turn TV or monitor on.
2. Put diskette into Disk Drive #1, then close door. *(Insert oval first, label up.)*
3. Turn power switch on. *(Located in back of computer on the left.)*

Note that computer is ready to receive instructions when you see a right bracket ] ***(prompt character)*** followed by a blinking square □ ***(cursor).***

*(See Page 14 for booting from the keyboard with PR#6.)*



1

### *Running a Program*

If loading from diskette, type **RUN** PROGRAM NAME [R] *.

If program is already in computer's memory, type **RUN** [R].

Note: Once program is in computer's memory, diskette can often be removed while using program.

### *Correcting a Mistake*

1. Use left and right **arrow keys** to position cursor over mistake.
2. Type over mistake, and use right arrow key to return cursor to end of line before pressing Return.

### *Some Error Messages*

SYNTAX ERROR means computer does not recognize command, as typed. Example: RUM instead of RUN.

FILE NOT FOUND means computer does not recognize program name, as typed. Check spelling and spacing.

### *Using a "Menu-Driven" Program*

*(such as PHONE LIST on System Master 3.3 diskette)*

1. Select menu option by typing number or letter indicated. Then press Return *(sometimes not required).*
2. Read all instructions carefully to learn format of input required, how to return to main menu, how to exit program, etc. These instructions can differ for every program.

### *Typing Rules*

Do not use Shift Keys to capitalize. The Apple alphabet is already upper case.

Do not use capital "O" for zero or lower case "L" for "1".

"Yes" and "No" answers can usually be abbreviated "Y" and "N".

---

* [R] means to press the **RETURN** key. This tells the computer your instruction is complete.

### *Adjusting Color*

1. Type RUN COLOR DEMOSOFT ® on System Master 3.3 diskette.
2. Type 1 ® to view Standard Color Names *(Menu Option #1)*.
3. Turn TV auto switch off, volume down.
4. Start with dark screen, and turn up brightness and contrast—or picture—knobs without letting colors "bleed." Use color knob to control intensity and hue knob for color balance.
5. Note that Apple's low resolution graphics offer 16 colors, numbered 0 through 15.

### *Checking Game Controllers*

1. Type RUN COLOR DEMOSOFT ® on System Master 3.3 diskette.
2. Type 4 ® to view Sketching Screen *(Menu Option #4)*.
3. Determine direction of movement for each dial: 1(X) horizontal, 0(Y) vertical. Then use controller buttons to clear screen, change color.
4. Note that Apple's low resolution graphics offer a matrix of 40 rows and 40 columns, numbered 0 through 39 in each direction.

### *Exiting a Program*

*(to regain keyboard control with prompt character and cursor)*

1. Exit with menu option, if available.
2. Or use RESET key *(with caution)*.
3. Or turn off computer, and reboot.

Note: See Page 21 for CTRL C ® option.

### *Using Computer without a Diskette*

*(in calculator mode)*

1. Turn on computer.
2. Press RESET to stop disk drive from spinning.
3. Use computer as usual, but without ability to save programs or data.

Note: Avoid inserting or removing a diskette while red light of disk drive is on.





### *Special Keys*

| | |
|---|---|
| RESET | Reset Key is used to gain control of the prompt character and cursor when:<br>—Program provides no exit option.<br>—Or computer is started with no diskette in disk drive.<br>Note that RESET will stop a program in the middle, and you may lose data in memory. As a safety precaution, some Apples require that you hold down CTRL Key while pressing RESET. |
| REPT | Repeat Key automatically retypes any character held down while pressing REPT. Example: REPT with ARROW Key moves cursor rapidly. |
| SHIFT | Shift Keys give access to upper set of characters when held while pressing double-function keys. Example: SHIFT M produces ]. |
| CTRL | Control Key is used with other keys to perform special functions, which can vary from program to program. Example: CTRL G sounds "bell." |
| ESC | Escape Key is also used with other keys to perform special functions, which can vary from program to program. Example: ESC I, J, K or M moves cursor in any direction. *(Press ESC again, or any other key, to turn off cursor movement.)* |

### *Edit Functions*

CTRL X cancels last line typed.
ESC E clears screen from cursor to end of line.
ESC F clears screen from cursor to bottom of screen.
ESC @ clears screen *(similar to HOME command)*.

FlipTrack Option

### Word Processing Modifications

Some software offers lower case capability and can expand display beyond 40 columns without hardware modification.

Or lower case adapter can be used for 40-column display.

Or 80-column video board can double display while providing lower case.

Note: Choice of software determines whether SHIFT, CTRL or ESC controls upper and lower case.

### Arithmetic Symbols

| | |
|---|---|
| + | to add |
| - | to subtract |
| * | to multiply |
| / | to divide |
| ^ | to raise to a power |
| ( ) | to control order of operations |

### Truth Symbols

*(1 if true, 0 if false)*

| | |
|---|---|
| < | less than |
| > | greater than |
| <= | less than or equal to |
| >= | greater than or equal to |
| = | equal to |
| <> | not equal to |

FlipTrack Option

### Numeric Keypad *(for speed and accuracy)*

10 numerals in standard calculator format.

Special keys for arithmetic operations, enter, other functions.

Regular keyboard use not affected.





### Calculating

1. Use PRINT command or **?** key to enter each problem.
2. Press Return instead of using equals sign when answer is desired in calculator mode.
3. Computer rounds answers of more than 9 significant digits and uses scientific notation.

Examples:

```
PRINT 5.653 * 4 + 3.2          Answer:  25.812
PRINT 4.38/3.65 - 1.023        Answer:  .177
  ?   4.1 ^ 5                  Answer:  1158.56201
  ?   .0075 >= .00897          Answer:  0
```

### Order of Arithmetic Operations *(left to right for each "pass")*

1. Operations inside parentheses, starting with innermost parentheses first.
2. Exponents.
3. Multiplication and division *(without preference for either)*.
4. Addition and subtraction *(without preference for either)*.

### Displaying Text

Type PRINT "NAME" [R] or **?** "NAME" [R] to display the word NAME.

About 6 lines of text may be displayed following a single PRINT command, using quotation marks.

### Clearing the Screen

Type HOME [R] to place the prompt character and cursor in the upper lefthand corner of the screen.

### Quiz

Note that you can try the quiz before taking the lesson, if you like, by starting the tape on the FlipTrack® side. Turn the tape over and rewind the backside completely to start the self-checking quiz.

2

## *Key Ideas from Lesson 2:*
# *USING DISK STORAGE*

### *Displaying the Catalog*

Type CATALOG [R] to list the contents of a diskette. If list is too long for one screen, scroll to the end by pressing any key, such as the space bar.

FlipTrack Option

### *Controlling a Printer*

1. Turn on printer, and be sure it is "on line" with computer.
2. Use menu option to start and stop the printing, if program offers one.
3. Otherwise, use manual method:

   Type PR#1 [R] to direct all computer output to printer plugged into peripheral Slot No. 1.

   Type PR#0 [R] to stop output to printer.

### *Interpreting the Catalog*

✱ **Asterisk** means file or program is locked or protected from accidental deletion or change.

**Numbers** indicate sectors of storage occupied on the diskette. *(There are 560 sectors on one side of each diskette.)*

A The letter "A" indicates a program written in the **Applesoft** BASIC language. Standard on all Apple II Plus computers. Capable of floating point decimal arithmetic.

I The letter "I" indicates a program written in the **Integer** BASIC language. Runs only on Apple II computers or Apple II Plus computers equipped with an Integer ROM card or memory expansion card. Fast execution, especially for graphics, but cannot do decimal arithmetic.





B The letter "B" indicates a program written in **binary code** *(machine language)*. Runs on any Apple computer, using special commands of the form: BRUN. Most efficient in terms of speed and economical use of memory.

T The letter "T" indicates a **data or text file**, not a program at all. It is used by other programs, but cannot be run independently.

### *Some Error Messages*

FILE TYPE MISMATCH means the computer cannot use the type of file you have named with the command you have given. Example: You cannot RUN a "T" *(text or data)* file.

LANGUAGE NOT AVAILABLE means your computer does not have access to the programming language *(usually Integer BASIC)* required to execute your command.

FlipTrack Option

### *Adding Integer BASIC to an Apple II Plus Computer*

Install an Integer BASIC *(Integer ROM)* Card in Slot 0. Language will be available whenever you turn on your computer.

or

Install a Memory Expansion Card in Slot 0. Language will be loaded automatically every time you boot your System Master 3.3 diskette. *(This also provides extra storage capacity for selected programs.)*

### *Switching Between Applesoft BASIC and Integer BASIC*

Switching is automatic when you run a program in either language. Prompt character changes from righthand bracket ] *(Applesoft)* to "greater than" symbol > *(Integer)*.

Switching can be done manually:

Type FP [R] to switch to Applesoft BASIC from Integer.
Type INT [R] to switch to Integer BASIC from Applesoft.

Note: Switching languages erases any program in memory.

### *Initializing (or Preparing) Diskettes*

1. Boot System Master 3.3 diskette.
2. Type NEW ® to erase memory.
3. Replace System Master with diskette to be initialized.
4. Type INIT HELLO ®.
5. Check catalog and try booting to verify initialization.

Note: HELLO is the traditional "greeting" program name, but you could use any name.

### *Booting from the Keyboard*

If computer is already on, type PR#6 ® to boot whatever diskette is in the disk drive. *(Assumes disk drive is plugged into peripheral Slot No. 6.)*

### *Customizing the Initialization Procedure*

1. Boot System Master 3.3 diskette.
2. Type NEW ® to erase memory.
3. Replace System Master with diskette to be initialized.
4. Enter the following program, as an example:

```
10 HOME ®
20 PRINT "YOUR NAME, TODAY'S DATE" ®
30 PRINT "PURPOSE OR CONTENT" ®
40 END ®
```

5. Type RUN ® to check screen format.
6. If corrections are needed, type LIST ® to list the program. Then retype any lines that need correcting, along with their line numbers. Corrected lines will replace the originals automatically when program is run.
7. Type INIT HELLO, V1 ® to assign Volume No. 1 to diskette. *(Without appending V1, the highest volume number—254—will be assigned automatically.)*
8. Check catalog and try booting to verify initialization.

Note: You may devise any identification program you wish. In fact, any program in your computer's memory at the time you initialize a diskette will run automatically when you boot that diskette.

FlipTrack Option





### *Copying an "A" or "I" Program from One Diskette to Another* *(See Lesson 3 for copying "A," "I," "B" or "T" files.)*

1. Put source diskette into disk drive.
2. Type LOAD PROGRAM NAME ®.
3. Replace source diskette with initialized diskette to which program is being copied.
4. Type SAVE PROGRAM NAME ®.
5. Check catalog or run program to verify transfer.

Note: Program still exists on original diskette.

### *Copying an "A" or "I" Program Using Two Disk Drives*

*(See Lesson 3 for copying "A," "I," "B" or "T" files.)*

1. Put source diskette into Drive 1 *(the default drive)*.
2. Put initialized diskette to which program is being copied into Drive 2.
3. Type LOAD PROGRAM NAME ® *(Computer will automatically use Drive 1, unless instructed to do otherwise.)*
4. Type SAVE PROGRAM NAME, D2 ® *(By appending D2, you will direct the computer to Drive 2. Computer will continue to use Drive 2 until redirected to Drive 1.)*
5. Check catalog or run program to verify copy.

Note: If you direct the computer to an empty disk drive, you will receive an I/O ERROR *(input/output error)* message.

FlipTrack Option

### *Some Error Messages*

FILE LOCKED means the file is protected against accidental deletion or change. Locked files are marked by an asterisk * in the catalog display.

WRITE PROTECTED means the entire diskette is protected against accidental erasure or change. Example: You cannot unlock, save or delete programs on the System Master diskette because there is no notch on the side. You can "write protect" any notched diskette by putting an adhesive tab over the notch.

### *Unlocking and Locking Programs*

Type **UNLOCK** PROGRAM NAME [R] to permit changes or deletions.

Type **LOCK** PROGRAM NAME [R] to prevent writing over a file or accidental deletion.

Verify that file is **locked** *(* asterisk)* or **unlocked** *(no asterisk)* by checking catalog display.

### *Deleting Programs*

Type **DELETE** PROGRAM NAME [R] to erase an unlocked program from a diskette that is not "write protected."

FlipTrack Option

### *Guidelines for Using Two Disk Drives*

1. In general, you can direct action to a specific disk drive by typing in the command, the name of the program *(if applicable)*, a comma, and D1 or D2. Examples:

| | |
|---|---|
| CATALOG,D2 [R] | UNLOCK PROGRAM,D1 [R] |
| LOAD PROGRAM, D1 [R] | LOCK PROGRAM,D2 [R] |
| SAVE PROGRAM, D2 [R] | DELETE PROGRAM,D2 [R] |
| RUN PROGRAM, D1 [R] | RENAME OLD, NEW, D1 [R] |

2. Once your computer has been directed to a specific disk drive, it will continue to use that disk drive until redirected. Thus, you do not have to append a D1 or D2 to each command.
3. Because it is so easy to delete from the wrong diskette or save to the wrong diskette, you should place a tab over the "write protect" notch of your source diskette, whenever possible.

### *Changing a Program Name*

Method 1: When transferring a program from one diskette to another, **LOAD** the old name, but **SAVE** under a new name.

Method 2: Type **RENAME** OLD NAME, NEW NAME [R] to change a program name without transferring from one diskette to another.

Note: You can rename any kind of file—Applesoft, Integer, Binary, or Text—provided it is unlocked.

Regardless of method, verify the new name in the catalog.





### *Putting Secret Codes In Program Names*

Use either renaming method just described, but put invisible characters anywhere in the name by holding down the **CTRL** key and typing any other letters or symbols or numbers. *(Exceptions: Some keys cannot be used with CTRL, such as X, M, H, etc.)*

The computer will remember where you have placed the CTRL characters, but they will not show in the name or on the catalog display. However, anyone trying to use the program without including them will get a FILE NOT FOUND message and be unable to use the program.

### *Using Both Sides of a Diskette*

Cut a matching notch out of the opposite edge of a diskette by using a second diskette as a model. Outline where the notch should be with a felt tip pen. Then use a sharp razor blade or knife to cut it out.

If you can initialize and catalog the back side, the diskette is probably safe to use—at least for making back-up copies.

FlipTrack option

### *Quiz*

Note that you can try the quiz before taking the lesson, if you like, by starting the tape on the FlipTrack® side. Turn the tape over and rewind the backside completely to start the self-checking quiz.

3

*Key Ideas from Lesson 3:*

# MAKING COPIES AND PROGRAM CHANGES

### *Duplicating Diskettes with the COPYA Program*

*(1 disk drive)*

The COPYA program copies the contents of an entire diskette *("A," "I," "B" and "T" files)*, provided it has not been specially programmed to prevent duplication. Procedure:

1. Boot System Master diskette.
2. Type RUN COPYA [R].
3. Set ORIGINAL SLOT: DEFAULT = 6 [R]
   DRIVE: DEFAULT = 1 [R]
4. Set DUPLICATE SLOT: DEFAULT = 6 [R]
   DRIVE: DEFAULT = 1 [R] *(Override DEFAULT=2.)*
5. Put **original** diskette to be copied in disk drive.
6. Follow prompts for swapping of **original** and **duplicate** diskettes through several cycles. *(Be sure duplicate has not been "write protected.")*
7. When finished, CATALOG [R] the copy to verify duplication.
8. Use felt tip pen to label diskette.

FlipTrack Option

### *Duplicating Diskettes with the COPYA Program*

*(2 disk drives)*

1. Boot System Master diskette in Drive 1.
2. Type RUN COPYA [R].
3. Set ORIGINAL SLOT: DEFAULT = 6 [R]
   DRIVE: DEFAULT = 1 [R]
4. Set DUPLICATE SLOT: DEFAULT = 6 [R]
   DRIVE: DEFAULT = 2 [R]
5. Put **original** diskette *(to be copied)* in Drive 1 and **duplicate** in Drive 2. *(Duplicate must not be "write protected.")* Press Return.
6. To verify copy, type CATALOG, D2 [R].
7. Use felt tip pen to label duplicate.



3

### *Copying Files with the FID Program*

*(1 disk drive)*

The FID program copies any type of file *("A," "I," "B" or "T")* without having to copy the entire diskette. *(See LOAD and SAVE commands on page 15 for easiest way to copy "A" and "I" files.)*

1. Boot System Master diskette.
2. Type BRUN FID [R].
3. Type 1 [R] for Copy Files option.
4. Set SOURCE SLOT 6 [R]
   DRIVE 1 [R]
   DESTINATION SLOT 6 [R]
   DRIVE 1 [R]
5. Enter FILENAME [R]. *(You may use equals sign as "wild card.")*
6. With "wild card," answer Y or N to "prompting" question.
7. Put **source** diskette in disk drive. Press Return.
8. Put **destination** diskette in disk drive. Press Return. *(Be sure destination diskette has been initialized.)*
9. Return to FID menu after file(s) have been copied.
10. CATALOG **destination** diskette, using Option 2.

### *Cataloging Files with FID*

*(1 or 2 disk drives)*

Menu Option 2 allows you to see catalog without exiting program.

1. Type 2 [R] for Catalog option.
2. Set SOURCE SLOT 6 [R]
   DRIVE 1 [R] or DRIVE 2 [R]
3. Return to FID menu.

### *Using "Wild Card" Filenames with FID*

Equals sign (=) can take the place of any part of a file name. Examples:

| | |
|---|---|
| A= | selects all files **beginning** with "A." |
| =AB | selects all files **ending** with "AB." |
| =ABC= | selects all files **containing** "ABC." |
| = | selects **all** files. |

With **prompting**, you can accept (Y) or reject (N) each file chosen.

### Copying Files with FID

*(2 disk drives)*

1. Boot System Master diskette in Drive 1.
2. Type BRUN FID ®.
3. Type 1 ® for Copy Files option.
4. Set SOURCE SLOT 6 ®
   DRIVE 1 ®
   DESTINATION SLOT 6 ®
   DRIVE 2 ®
5. Enter FILENAME (R). *(You may use equals sign as "wild card.")*
6. With "wild card," answer Y or N to "prompting" question.
7. Put source diskette in Drive 1 and destination diskette in Drive 2. Press Return. *(Be sure destination diskette has been initialized.)*
8. Return to FID menu after file(s) have been copied.
9. To verify copy, CATALOG the destination diskette in Drive 2.

### Switching Between Drives with FID

*(2 disk drives)*

Computer will continue to use last default slot and drive until redirected. Option 1 *(Copy Files)* always asks for new default values, but the other menu options do not. If you need to switch between drives for any option other than copying, use Option 7 *(Reset Slot and Drive) to cancel existing default values.*

*Example: To check Drive 1 catalog after checking Drive 2 catalog, use Option 7 to cancel Drive 2 default.*

### Checking Space on Disk With FID

Option 3 *(Space on Disk)* calculates the number of sectors "free" and "used" on a diskette. There are 560 sectors on a diskette.

### Other FID Menu Options

Options 4 *(Unlock Files)*, 5 *(Lock Files)*, 6 *(Delete Files)* and 8 *(Verify Files)* follow the same general procedure:

1. Select option, and press Return.
2. Set source slot and drive number.
3. Enter FILENAME ®. *(You may use equals sign as "wild card.")*
4. With "wild card," answer Y or N to "prompting" question.
5. Return to FID menu, and check catalog.





### Listing Lines in a Program

The LIST command can be used to display an entire program, a range of lines, or a single line.

Examples: LIST 340 ® displays Line 340 only.
LIST 270,370 ® displays a range.
LIST ® displays an entire program.

Note: If the program listing is too long for a single screen display, the listing will automatically scroll from beginning to end.

### Stopping and Starting a Program Listing

CTRL S stops and starts the scrolling of a lengthy program listing.

CTRL C aborts the listing and restores the prompt character and blinking cursor. It also can be used to exit a program. May require Return. *(See page 8 for other exit options.)*

### Modifying a Program

1. Type UNLOCK PROGRAM NAME ®.
2. Type LOAD PROGRAM NAME ®.
3. TYPE LIST ®, followed by line number to be modified.
4. Retype each line in which a change is to be made. *(Include the line number.)*
5. Press Return when finished typing the line. This inserts the new or modified line into the program.
6. Type LIST ®, followed by the line numbers modified, to be sure they were entered correctly.
7. Type RUN ® to be sure the program runs correctly. *(Do not follow RUN with the program name, or you will load the unmodified version from the diskette, thus losing the modified version in the computer's memory.)*
8. Type SAVE PROGRAM NAME ® to replace the original version of the program with the new. *(Typing a new program name saves the new version, as well as the original.)*
9. Type LOCK PROGRAM NAME ®.

Note: Using the same line number **replaces** the line.
Using a new line number **adds** the line.
Using a line number by itself **deletes** the line.

### *Running a 13-Sector Diskette*

*(on a 16-sector system)*

1. Boot BASICS diskette that came with the system.
2. Replace BASICS diskette with 13-sector diskette, and press Return.

   or

1. Boot System Master diskette.
2. Type BRUN BOOT 13 [R].
3. Replace System Master diskette with 13-sector diskette, and press Return.

### *Converting Files from a 13-Sector Diskette*

*(onto a 16-sector diskette).*

1. Boot System Master diskette.
2. Type BRUN MUFFIN [R].
3. Type 1 [R] to Convert Files.
4. Set SOURCE SLOT 6 [R]
   DRIVE 1 [R]
   DESTINATION SLOT 6 [R]
   DRIVE 1 [R] or DRIVE 2 [R]
5. Enter FILENAME [R] with or without "wild card."
6. With "wild card," answer Y or N to "prompting" question.
7. Follow prompts for insertion of 13-sector source and 16-sector destination diskettes. *(Be sure new destination diskette has been initialized as a 16-sector diskette.)*
8. Boot 16-sector destination diskette to check it out.
9. If 16-sector diskette does not boot, some program changes may be necessary.

Note: Old 13-sector diskettes may be reinitialized in a 16-sector format when you are ready to erase them.





### *Modifying Screen Displays*

**SPEED=** varies the rate at which characters are displayed. Simply set SPEED equal to any whole number from 0 (very slow) to 255 (almost instantaneous).

Example:
```
10 SPEED = 100 [R]
20 PRINT "TITLE" [R]
30 SPEED = 255 [R]
```

Statements display TITLE at slow reading speed, one character at a time, then reset display to normal.

**INVERSE** produces dark characters on a light background.

**NORMAL** switches off INVERSE mode.

Example:
```
10 INVERSE [R]
20 PRINT "TITLE" [R]
30 NORMAL [R]
```

Statements display TITLE in inverse letters, then reset display to normal.

**FLASH** makes characters alternate between light on dark and dark on light.

**NORMAL** switches off FLASH mode.

Example:
```
10 FLASH [R]
20 PRINT "TITLE" [R]
30 NORMAL [R]
```

Statements make the word TITLE flash, then reset display to normal.

Note that you can try the quiz before taking the lesson, if you like, by starting the tape on the FlipTrack® side. Turn the tape over, and rewind the backside completely to start the self-checking quiz.

# QUICK REFERENCE INDEX


**A**

"A" file in catalog, 12
Addition (+), 10-11
Adjusting color, 8
Applesoft BASIC, 12
  switching, 13
  copying, 15, 18-20
Arithmetic
  symbols (+, -, x, /, ^), 10-11
  order of operations, 10-11
Arrow keys, 6
Arrow pointing upward (^), 10-11
Asterisk (*)
  file locked 12, 15-16
  multiply, 10-11

**B**

"B" file in catalog, 13
Backspace with arrow keys, 6
BASIC (see also File Types)
  Applesoft, 12-13
  Integer, 12-13
BASICS diskette, 22
BELL (beep) with CTRL-G, 9
Binary code, 13
  copying, 18-20
Blinking cursor (see Cursor)
BOOT 13 program, 22
Booting a diskette
  from power switch, 6
  from keyboard (PR#6), 13
BRUN command, 13

**C**

Calculator mode, 8, 10-11
Cancel line with CTRL-X, 9
Cards (circuit boards)
  Disk II controller card, 6
  Integer ROM card, 12-13
  Memory expansion card, 12-13
  Printer interface card, 6
Catalog
  CATALOG command, 12
  interpreting, 12-13
  using FID, 19
Changing
  program lines, 14, 21
  program name, 16
  volume number, 14
Character SPEED, 23
Clearing
Codes in file names, 17
Color
  adjusting with COLOR DEMOSOFT, 8
  low resolution, 8
  names & numbers, 8
COLOR DEMOSOFT program, 8
Columns, 8, 10
Commands
  BRUN, 13
  CATALOG, 12
  DELETE, 16
  FLASH, 23
  FP, 13
  HOME, 11
  INT, 13
  INIT, 14
  INVERSE, 23
  LIST, 21
  LOAD, 15
  LOCK, 16
  NEW, 14
  NORMAL, 23
  PR#, 12, 14
  PRINT, 11
  RENAME, 16
  RUN, 7
  SAVE, 15
  SPEED=, 23
  UNLOCK, 16
Controller card, 6
COPYA program, 18
Copying
  A & I files with LOAD & SAVE, 15
  A, I, B & T files with FID, 19-20
  Entire diskette with COPYA, 18
Converting from 13 to 16 sectors, 22
Correcting mistakes, 7, 14, 21
CTRL (Control) key, 9
  CTRL codes in file names, 17
  CTRL-C, 21
  CTRL-E, 9
  CTRL-F, 9
  CTRL-G, 9
  CTRL-RESET, 9
  CTRL-S, 21







Cursor, 6
  moving with arrows, 7
  moving with ESC-I, J, K, M, 9
  regaining, 8-9, 21

**D**

Data files (see Text Files)
Decimal places, 11
Default values (disk drives), 18-20
DELETE command, 16
  using FID, 20
Disk drive
  controller card, 6
  drive number, 6, 16
  red "in use" light, 8
  reset slot & drive, 20
  set-up, 6
  slot number, 6
  specify configuration, 18-20
Diskettes
  back side use, 17
  booting, 6
  capacity, 12, 20
  caring for, 6
  cataloging, 12, 19
  copying, 18-20
  deleting from, 16, 20
  drive number, 6, 15-16, 18-20
  duplication, 18-20
  initializing, 14
  inserting, 6, 8
  loading from, 15
  saving to, 15
  sectors, 12, 20, 22
  volume number, 14
  write protecting, 15, 16
  13-sector, 22
Displaying catalog, 12, 19
Displaying text, 11
Display screen
  clearing, 9, 11
  color adjustment, 8
  columns, 8, 10
  hookup, 6
  low resolution graphics, 8
  lower case, 10
  modifying with FLASH INVERSE & SPEED, 23
  monitor, 6
  rows, 8
  TV set, 6
  80-column, 10
Division (/), 10-11

**E**

Editing
  adding lines, 21
  arrow keys, 7
  cancelling line, 9
  changing
    characters, 7
    lines, 14, 21
  clearing
    to end of line, 9
    to end of screen, 9
    entire screen, 9
  correcting lines, 14, 21
  cursor movement, 7
  deleting
    characters, 7
    lines, 21
  edit mode, 9
  replacing lines, 14, 21
Equals sign
  in logic statements, 10-11
  as wildcard, 19
Erasing (see also DELETE)
  lines, 21
  memory, 14
  screen, 9
Error messages
  FILE LOCKED, 15
  FILE TYPE MISMATCH, 13
  FILE NOT FOUND, 7, 17
  I/O ERROR, 15
  LANGUAGE NOT AVAILABLE, 13
  SYNTAX ERROR, 7
  WRITE PROTECTED, 15
ESC (Escape) key, 9
  ESC-I, J, K, M, 9
  ESC @, 9
Exit a program, 7-8, 21
Exponents, 10-11

**F**

FID program, 19-20
  copy files, 19
  catalog, 19
  space on disk, 20
  unlock, 20
  lock, 20
  delete, 20
  reset slot & drive, 20
  verify, 20
File types
  Applesoft BASIC (A), 12
  Integer BASIC (I), 12
  binary code (B), 13
  machine language (B), 13
  text (T), 13
  data (T), 13

Files (see also Programs)
  deleting, 16, 20
  loading, 15
  locking, 12, 16, 20
  naming, 16
  naming with hidden codes, 17
  renaming, 16,
  saving, 15
  sectors used, 12, 20
  types (A, I, B, T), 12-13
  unlocking, 16, 20
  verifying, 20
FILE LOCKED message, 15
FILE TYPE MISMATCH message, 13
FILE NOT FOUND message, 7, 17
FLASH command, 23
FP command, 13

*G*

Game controllers
  checkout with COLOR DEMOSOFT, 8
  hooking up, 6
Game I/O socket, 6
Graphics
  color names & numbers, 8
  rows & columns, 8
Greater than (>) symbol, 10-11, 13
Greeting program, 14

*H*

HELLO program, 14
HOME command, 11

*I*

"I" file in catalog, 12
INIT command, 14
Initialization
  customizing, 14
  procedure, 14
Installing
  disk drives, 6
  game controllers, 6
  TV or monitor, 6, 8
INT command, 13
Integer BASIC
  copying, 15, 18
  memory expansion card, 12-13
  ROM card, 12-13
  switching, 13
INVERSE command, 23
I/O ERROR message, 15

*K*

Keypad (see Numeric Keypad)

*L*

LANGUAGE NOT AVAILABLE, 13
Languages
  Applesoft BASIC, 12-13
  Binary code (machine), 13
  Integer BASIC, 12-13
Left arrow key, 7
Less than (<) symbol, 10-11
Line numbers, 14, 21
LIST command, 21
LOAD command, 15
LOCK command, 16
  asterisk (*), 12, 15-16
  using FID, 20
Logical operators, 10-11
Lower case letters, 10
Low resolution graphics, 8

*M*

Machine language (see Binary)
Memory expansion card, 12-13
Menu-driven program, 7
Modulator (RF), 6
Monitor hookup, 6, 8
  (see also TV hookup)
MUFFIN program, 22
Multiplication (*), 10-11

*N*

NEW command, 14
NORMAL command, 23
Numeric keypad, 10

*O*

Operators
  arithmetic, 10-11
  logical, 10-11
  precedence, 10-11
Order of operations, 10-11

*P*

Paddles (see Game Controllers), 6, 8
Parentheses, 10-11
Peripheral devices
  game controllers, 6, 8
  printer, 6
  set up, 6
Power switch, 6
PR#0, 12
PR#1, 12
PR#6, 14
Precedence in arithmetic, 10-11
PRINT command, 11







Printer
  interface card hookup, 6
  control with PR#1 & PR#0, 12
Programs (see also Files)
  adding lines, 21
  changing lines, 14, 21
  copying, 15, 18-20
  deleting from diskette, 16, 20
  deleting lines, 21
  exiting 7, 8, 21
  greeting type, 14
  loading, 15
  locking, 12, 16, 20
  naming, 16
  naming with hidden codes, 17
  renaming, 16
  running, 7
  saving to diskette, 15
  selecting menu options, 7
  unlocking, 16, 20
  verifying, 20
Prompt character
  Applesoft BASIC (]), 6, 13
  Integer BASIC (>), 13
  Regaining, 8-9

*Q*

Question mark, 11
Quotation marks, 11

*R*

RENAME command, 16
REPT (Repeat) key, 9
RESET key, 8-9
RETURN key, 7
RF modulator, 6
Right arrow key, 7
Rows, 8
Rounding, 11
RUN command, 7

*S*

SAVE command, 15
Scrolling, 12, 21
Sectors, 12
  13 to 16 conversion, 22
Security
  control characters in file name, 17
  copying, 15, 18-20
  locking, 12, 15-16, 20
  write protecting, 15
Setting up system, 6, 8
SHIFT key, 7, 9
Slot numbers
  disk drives, 6, 16, 18-20
  printer, 6, 12
  set up, 6
Space on diskette
  calculation by FID, 20
  capacity 12, 20
SPEED= command, 23
Stopping the computer
  listings 21
  programs, 21
Subtraction (-), 10
Switching languages, 13
SYNTAX ERROR message, 7

*T*

"T" file in catalog, 13
Television (TV) hookup, 6, 8
  (see also Monitor hookup)
Text file, 13
  copying, 18, 19-20
Text displays, 11
Truth symbols, 10-11
  (see also Logical Operators)

*U*

UNLOCK command, 16
  using FID, 20
Upper case letters, 7, 10

*V*

Verification with FID, 20
Video output jack, 6
Volume number, 14

*W*

Wild card characters, 19-20, 22
Word processing, 10
WRITE PROTECTED message, 15
Write-protecting, 15, 16